

## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical  
Information Center (STIC) no errors detected.**

Application Serial Number: 10/543,633  
Source: PCT  
Date Processed by STIC: 08/08/2005

***ENTERED***



PCT

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/10/543,633

DATE: 08/08/2005  
TIME: 16:28:22

Input Set : A:\21236p.txt  
Output Set: N:\CRF4\08082005\J543633.raw

```

4 <110> APPLICANT: Jay Grobler
5      Osvaldo Flores
6      Eric J. Markel
8 <120> TITLE OF INVENTION: METHOD TO CONFER CELL CULTURE
9      REPLICATION ACTIVITY TO DIFFERENT HEPATITIS C VIRUS ISOLATES
12 <130> FILE REFERENCE: 21236P
C--> 14 <140> CURRENT APPLICATION NUMBER: US/10/543,633
C--> 14 <141> CURRENT FILING DATE: 2005-07-28
14 <150> PRIOR APPLICATION NUMBER: PCT/US04/03726
15 <151> PRIOR FILING DATE: 2004-02-09
17 <150> PRIOR APPLICATION NUMBER: 60/447,318
18 <151> PRIOR FILING DATE: 2003-02-13
20 <160> NUMBER OF SEQ ID NOS: 4
22 <170> SOFTWARE: FastSEQ for Windows Version 4.0
24 <210> SEQ ID NO: 1
25 <211> LENGTH: 1985
26 <212> TYPE: PRT
27 <213> ORGANISM: Artificial Sequence
29 <220> FEATURE:
30 <223> OTHER INFORMATION: HCV Replicon
32 <400> SEQUENCE: 1
33 Met Ala Pro Ile Thr Ala Tyr Ser Gln Gln Thr Arg Gly Leu Leu Gly
34      1           5           10          15
35 Cys Ile Ile Thr Ser Leu Thr Gly Arg Asp Lys Asn Gln Val Glu Gly
36      20          25          30
37 Glu Val Gln Val Val Ser Thr Ala Thr Gln Ser Phe Leu Ala Thr Cys
38      35          40          45
39 Val Asn Gly Val Cys Trp Thr Val Tyr His Gly Ala Gly Ser Lys Thr
40      50          55          60
41 Leu Ala Gly Pro Lys Gly Pro Ile Thr Gln Met Tyr Thr Asn Val Asp
42      65          70          75          80
43 Gln Asp Leu Val Gly Trp Gln Ala Pro Pro Gly Ala Arg Ser Leu Thr
44      85          90          95
45 Pro Cys Thr Cys Gly Ser Ser Asp Leu Tyr Leu Val Thr Arg His Ala
46      100         105         110
47 Asp Val Ile Pro Val Arg Arg Gly Asp Ser Arg Gly Ser Leu Leu
48      115         120         125
49 Ser Pro Arg Pro Val Ser Tyr Leu Lys Gly Ser Ser Gly Gly Pro Leu
50      130         135         140
51 Leu Cys Pro Ser Gly His Ala Val Gly Ile Phe Arg Ala Ala Val Cys
52      145         150         155         160
53 Thr Arg Gly Val Ala Lys Ala Val Asp Phe Val Pro Val Glu Ser Met
54      165         170         175

```

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55 Glu Thr Thr Met Arg Ser Pro Val Phe Thr Asp Asn Ser Ser Pro Pro  
 56 180 185 190  
 57 Ala Val Pro Gln Ser Phe Gln Val Ala His Leu His Ala Pro Thr Gly  
 58 195 200 205  
 59 Ser Gly Lys Ser Thr Lys Val Pro Ala Ala Tyr Ala Ala Gln Gly Tyr  
 60 210 215 220  
 61 Lys Val Leu Val Leu Asn Pro Ser Val Ala Ala Thr Leu Gly Phe Gly  
 62 225 230 235 240  
 63 Ala Tyr Met Ser Lys Ala His Gly Ile Asp Pro Asn Ile Arg Thr Gly  
 64 245 250 255  
 65 Val Arg Thr Ile Thr Thr Gly Ala Pro Val Thr Tyr Ser Thr Tyr Gly  
 66 260 265 270  
 67 Lys Phe Leu Ala Asp Gly Gly Cys Ser Gly Gly Ala Tyr Asp Ile Ile  
 68 275 280 285  
 69 Ile Cys Asp Glu Cys His Ser Thr Asp Ser Thr Thr Ile Leu Gly Ile  
 70 290 295 300  
 71 Gly Thr Val Leu Asp Gln Ala Glu Thr Ala Gly Ala Arg Leu Val Val  
 72 305 310 315 320  
 73 Leu Ala Thr Ala Thr Pro Pro Gly Ser Val Thr Val Pro His Pro Asn  
 74 325 330 335  
 75 Ile Glu Glu Val Ala Leu Ser Asn Thr Gly Glu Ile Pro Phe Tyr Gly  
 76 340 345 350  
 77 Lys Ala Ile Pro Ile Glu Ala Ile Arg Gly Gly Arg His Leu Ile Phe  
 78 355 360 365  
 79 Cys His Ser Lys Lys Cys Asp Glu Leu Ala Ala Lys Leu Ser Gly  
 80 370 375 380  
 81 Leu Gly Ile Asn Ala Val Ala Tyr Tyr Arg Gly Leu Asp Val Ser Val  
 82 385 390 395 400  
 83 Ile Pro Thr Ile Gly Asp Val Val Val Val Ala Thr Asp Ala Leu Met  
 84 405 410 415  
 85 Thr Gly Tyr Thr Gly Asp Phe Asp Ser Val Ile Asp Cys Asn Thr Cys  
 86 420 425 430  
 87 Val Thr Gln Thr Val Asp Phe Ser Leu Asp Pro Thr Phe Thr Ile Glu  
 88 435 440 445  
 89 Thr Thr Thr Val Pro Gln Asp Ala Val Ser Arg Ser Gln Arg Arg Gly  
 90 450 455 460  
 91 Arg Thr Gly Arg Gly Arg Met Gly Ile Tyr Arg Phe Val Thr Pro Gly  
 92 465 470 475 480  
 93 Glu Arg Pro Ser Gly Met Phe Asp Ser Ser Val Leu Cys Glu Cys Tyr  
 94 485 490 495  
 95 Asp Ala Gly Cys Ala Trp Tyr Glu Leu Thr Pro Ala Glu Thr Ser Val  
 96 500 505 510  
 97 Arg Leu Arg Ala Tyr Leu Asn Thr Pro Gly Leu Pro Val Cys Gln Asp  
 98 515 520 525  
 99 His Leu Glu Phe Trp Glu Ser Val Phe Thr Gly Leu Thr His Ile Asp  
 100 530 535 540  
 101 Ala His Phe Leu Ser Gln Thr Lys Gln Ala Gly Asp Asn Phe Pro Tyr  
 102 545 550 555 560  
 103 Leu Val Ala Tyr Gln Ala Thr Val Cys Ala Arg Ala Gln Ala Pro Pro

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104	565	570	575	
105	Pro Ser Trp Asp Gln Met Trp Lys Cys Leu Ile Arg Leu Lys Pro Thr			
106	580	585	590	
107	Leu His Gly Pro Thr Pro Leu Leu Tyr Arg Leu Gly Ala Val Gln Asn			
108	595	600	605	
109	Glu Val Thr Leu Thr His Pro Ile Thr Lys Tyr Ile Met Ala Cys Met			
110	610	615	620	
111	Ser Ala Asp Leu Glu Val Val Thr Ser Thr Trp Val Leu Val Gly Gly			
112	625	630	635	640
113	Val Leu Ala Ala Leu Ala Ala Tyr Cys Leu Thr Thr Gly Ser Val Val			
114	645	650	655	
115	Ile Val Gly Arg Ile Ile Leu Ser Gly Arg Pro Ala Ile Val Pro Asp			
116	660	665	670	
117	Arg Glu Phe Leu Tyr Gln Glu Phe Asp Glu Met Glu Glu Cys Ala Ser			
118	675	680	685	
119	His Leu Pro Tyr Ile Glu Gln Gly Met Gln Leu Ala Glu Gln Phe Lys			
120	690	695	700	
121	Gln Lys Ala Leu Gly Leu Leu Gln Thr Ala Thr Lys Gln Ala Glu Ala			
122	705	710	715	720
123	Ala Ala Pro Val Val Glu Ser Lys Trp Arg Ala Leu Glu Thr Phe Trp			
124	725	730	735	
125	Ala Lys His Met Trp Asn Phe Ile Ser Gly Ile Gln Tyr Leu Ala Gly			
126	740	745	750	
127	Leu Ser Thr Leu Pro Gly Asn Pro Ala Ile Ala Ser Leu Met Ala Phe			
128	755	760	765	
129	Thr Ala Ser Ile Thr Ser Pro Leu Thr Thr Gln Ser Thr Leu Leu Phe			
130	770	775	780	
131	Asn Ile Leu Gly Gly Trp Val Ala Ala Gln Leu Ala Pro Pro Ser Ala			
132	785	790	795	800
133	Ala Ser Ala Phe Val Gly Ala Gly Ile Ala Gly Ala Ala Val Gly Ser			
134	805	810	815	
135	Ile Gly Leu Gly Lys Val Leu Val Asp Ile Leu Ala Gly Tyr Gly Ala			
136	820	825	830	
137	Gly Val Ala Gly Ala Leu Val Ala Phe Lys Val Met Ser Gly Glu Met			
138	835	840	845	
139	Pro Ser Thr Glu Asp Leu Val Asn Leu Leu Pro Ala Ile Leu Ser Pro			
140	850	855	860	
141	Gly Ala Leu Val Val Gly Val Val Cys Ala Ala Ile Leu Arg Arg His			
142	865	870	875	880
143	Val Gly Pro Gly Glu Gly Ala Val Gln Trp Met Asn Arg Leu Ile Ala			
144	885	890	895	
145	Phe Ala Ser Arg Gly Asn His Val Ser Pro Thr His Tyr Val Pro Glu			
146	900	905	910	
147	Ser Asp Ala Ala Ala Arg Val Thr Gln Ile Leu Ser Ser Leu Thr Ile			
148	915	920	925	
149	Thr Gln Leu Leu Lys Arg Leu His Gln Trp Ile Asn Glu Asp Cys Ser			
150	930	935	940	
151	Thr Pro Cys Ser Gly Ser Trp Leu Arg Asp Val Trp Asp Trp Ile Cys			
152	945	950	955	960

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153 Thr Val Leu Thr Asp Phe Lys Thr Trp Leu Gln Ser Lys Leu Leu Pro  
154 965 970 975  
155 Gln Leu Pro Gly Val Pro Phe Ser Cys Gln Arg Gly Tyr Lys Gly  
156 980 985 990  
157 Val Trp Arg Gly Asp Gly Ile Met Gln Thr Thr Cys Pro Cys Gly Ala  
158 995 1000 1005  
159 Gln Ile Thr Gly His Val Lys Asn Gly Ser Met Arg Ile Val Gly Pro  
160 1010 1015 1020  
161 Lys Thr Cys Ser Asn Thr Trp His Gly Thr Phe Pro Ile Asn Ala Tyr  
162 1025 1030 1035 1040  
163 Thr Thr Gly Pro Cys Thr Pro Ser Pro Ala Pro Asn Tyr Ser Arg Ala  
164 1045 1050 1055  
165 Leu Trp Arg Val Ala Ala Glu Glu Tyr Val Glu Val Thr Arg Val Gly  
166 1060 1065 1070  
167 Asp Phe His Tyr Val Thr Gly Met Thr Thr Asp Asn Val Lys Cys Pro  
168 1075 1080 1085  
169 Cys Gln Val Pro Ala Pro Glu Phe Phe Thr Glu Val Asp Gly Val Arg  
170 1090 1095 1100  
171 Leu His Arg Tyr Ala Pro Ala Cys Arg Pro Leu Leu Arg Glu Glu Val  
172 1105 1110 1115 1120  
173 Thr Phe Gln Val Gly Leu Asn Gln Tyr Leu Val Gly Ser Gln Leu Pro  
174 1125 1130 1135  
175 Cys Glu Pro Glu Pro Asp Val Ala Val Leu Thr Ser Met Leu Thr Asp  
176 1140 1145 1150  
177 Pro Ser His Ile Thr Ala Glu Thr Ala Lys Arg Arg Leu Ala Arg Gly  
178 1155 1160 1165  
179 Ser Pro Pro Ser Leu Ala Ser Ser Ser Ala Ile Gln Leu Ser Ala Pro  
180 1170 1175 1180  
181 Ser Leu Lys Ala Thr Cys Thr Thr His His Val Ser Pro Asp Ala Asp  
182 1185 1190 1195 1200  
183 Leu Ile Glu Ala Asn Leu Leu Trp Arg Gln Glu Met Gly Gly Asn Ile  
184 1205 1210 1215  
185 Thr Arg Val Glu Ser Glu Asn Lys Val Val Val Leu Asp Ser Phe Asp  
186 1220 1225 1230  
187 Pro Leu Arg Ala Glu Glu Asp Glu Arg Glu Val Ser Val Pro Ala Glu  
188 1235 1240 1245  
189 Ile Leu Arg Lys Ser Lys Lys Phe Pro Ala Ala Met Pro Ile Trp Ala  
190 1250 1255 1260  
191 Arg Pro Asp Tyr Asn Pro Pro Leu Leu Glu Ser Trp Lys Asp Pro Asp  
192 1265 1270 1275 1280  
193 Tyr Val Pro Pro Val Val His Gly Cys Pro Leu Pro Pro Ile Lys Ala  
194 1285 1290 1295  
195 Pro Pro Ile Pro Pro Pro Arg Arg Lys Arg Thr Val Val Leu Thr Glu  
196 1300 1305 1310  
197 Ser Ser Val Ser Ser Ala Leu Ala Glu Leu Ala Thr Lys Thr Phe Gly  
198 1315 1320 1325  
199 Ser Ser Glu Ser Ser Ala Val Asp Ser Gly Thr Ala Thr Ala Leu Pro  
200 1330 1335 1340  
201 Asp Gln Ala Ser Asp Asp Gly Asp Lys Gly Ser Asp Val Glu Ser Tyr

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202	1345	1350	1355	1360
203	Ser Ser Met Pro Pro Leu Glu Gly Glu Pro Gly Asp Pro Asp Leu Ser			
204	1365	1370	1375	
205	Asp Gly Ser Trp Ser Thr Val Ser Glu Glu Ala Ser Glu Asp Val Val			
206	1380	1385	1390	
207	Cys Cys Ser Met Ser Tyr Thr Trp Thr Gly Ala Leu Ile Thr Pro Cys			
208	1395	1400	1405	
209	Ala Ala Glu Glu Ser Lys Leu Pro Ile Asn Ala Leu Ser Asn Ser Leu			
210	1410	1415	1420	
211	Leu Arg His His Asn Met Val Tyr Ala Thr Thr Ser Arg Ser Ala Gly			
212	1425	1430	1435	1440
213	Leu Arg Gln Lys Lys Val Thr Phe Asp Arg Leu Gln Val Leu Asp Asp			
214	1445	1450	1455	
215	His Tyr Arg Asp Val Leu Lys Glu Met Lys Ala Lys Ala Ser Thr Val			
216	1460	1465	1470	
217	Lys Ala Lys Leu Leu Ser Val Glu Glu Ala Cys Lys Leu Thr Pro Pro			
218	1475	1480	1485	
219	His Ser Ala Lys Ser Lys Phe Gly Tyr Gly Ala Lys Asp Val Arg Asn			
220	1490	1495	1500	
221	Leu Ser Ser Lys Ala Val Asn His Ile His Ser Val Trp Lys Asp Leu			
222	1505	1510	1515	1520
223	Leu Glu Asp Thr Val Thr Pro Ile Asp Thr Thr Ile Met Ala Lys Asn			
224	1525	1530	1535	
225	Glu Val Phe Cys Val Gln Pro Glu Lys Gly Gly Arg Lys Pro Ala Arg			
226	1540	1545	1550	
227	Leu Ile Val Phe Pro Asp Leu Gly Val Arg Val Cys Glu Lys Met Ala			
228	1555	1560	1565	
229	Leu Tyr Asp Val Val Ser Thr Leu Pro Gln Val Val Met Gly Ser Ser			
230	1570	1575	1580	
231	Tyr Gly Phe Gln Tyr Ser Pro Gly Gln Arg Val Glu Phe Leu Val Asn			
232	1585	1590	1595	1600
233	Thr Trp Lys Ser Lys Lys Asn Pro Met Gly Phe Ser Tyr Asp Thr Arg			
234	1605	1610	1615	
235	Cys Phe Asp Ser Thr Val Thr Glu Asn Asp Ile Arg Val Glu Glu Ser			
236	1620	1625	1630	
237	Ile Tyr Gln Cys Cys Asp Leu Ala Pro Glu Ala Arg Gln Ala Ile Lys			
238	1635	1640	1645	
239	Ser Leu Thr Glu Arg Leu Tyr Ile Gly Gly Pro Leu Thr Asn Ser Lys			
240	1650	1655	1660	
241	Gly Gln Asn Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Thr			
242	1665	1670	1675	1680
243	Thr Ser Cys Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Ser Ala Ala			
244	1685	1690	1695	
245	Cys Arg Ala Ala Lys Leu Gln Asp Cys Thr Met Leu Val Asn Gly Asp			
246	1700	1705	1710	
247	Asp Leu Val Val Ile Cys Glu Ser Ala Gly Thr Gln Glu Asp Ala Ala			
248	1715	1720	1725	
249	Ser Leu Arg Val Phe Thr Glu Ala Met Thr Arg Tyr Ser Ala Pro Pro			
250	1730	1735	1740	

**VERIFICATION SUMMARY**

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Output Set: N:\CRF4\08082005\J543633.raw

L:14 M:270 C: Current Application Number differs, Replaced Current Application No

L:14 M:271 C: Current Filing Date differs, Replaced Current Filing Date